Category

Polymer-Supported Synthesis

Key words

palladium on activated charcoal

bismuth

tellurium

aerobic oxidative esterification

primary alcohols

A. B. POWELL, S. S. STAHL* (UNIVERSITY OF WISCONSIN-MADISON, USA)

Aerobic Oxidation of Diverse Primary Alcohols to Methyl Esters with a Readily Accessible Heterogeneous Pd/Bi/Te Catalyst

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Oxidative Esterification of Primary Alcohols with a Pd/Bi/Te Catalyst

Significance: Palladium on activated charcoal (Pd/C, 5 wt%, purchased from Sigma-Aldrich) in combination with Bi(NO₃)₃·5H₂O and Te catalyzed the aerobic oxidative esterification of primary alcohols to give the corresponding methyl esters in 6–100% yield (32 examples, eq. 1).

Comment: In the absence of Bi(NO₃)₃·5H₂O and Te, the oxidative esterification of 1-octanol gave methyl octanoate in 16% yield. The catalytic activity of palladium on activated charcoal was superior to that of palladium on carbon and alumina (purchased from Sigma-Aldrich).

 SYNFACTS Contributors: Yasuhiro Uozumi, Takao Osako

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